

**CLAIMS**

1. A semiconductor laser arranged to emit at a given wavelength and having a light emitting facet carrying a phase-shifting anti-reflection coating, whose thickness is one quarter that of the given wavelength.

5 2. A semiconductor laser according to claim 1 in which the coating is of SixOyNy:H.

3. A semiconductor laser according to claim 2 in which the coating is growing by PE-CVD.

4. A semiconductor laser according to claim 1, being a GaAs laser.

10 5. A semiconductor laser according to claim 1 in which the coating has an optical index of at least 1.83.

6. A semiconductor laser according to claim 1 in which coupling is arranged to take place at the minimum of the standing wave.

15 7. A method of manufacturing a semiconductor laser arranged to emit at a given wavelength and having an emission face, the method comprising the steps of:

forming an anti-reflection coating layer on the emission face, such that the layer thickness is one quarter of the given wavelength.

20 8. A method according to claim 5 in which the coating is of SixOyNy:H.

9. A method according to claim 5 in which a coating is grown by PE\_CVD

10. A method according to claim 5 in which the semiconductor laser is a GaAs laser.

25 11. A method according to claim 7 in which the coating has an optical index of at least 1.83.

12. A method according to claim 7 in which coupling is arranged to take place at the minimum of the standing wave.

09993824-110601

13. An optical transmitter incorporating a laser as claimed in claim 1.
14. An optical amplifier incorporating a laser as claimed in claim 1.

ALL A17

FO90TF" +28E6660